

REMARKS/ARGUMENTS

Claim 7 has been objected to for "the injector rings" element as not having proper antecedent basis. Claim 7 has been amended to depend on claim 3 that has an injector ring and appropriate grammatical correction has been made. Reference to claim 1 was a clerical error.

Claim 1 has been objected to for lack of clarity concerning the relative offset of the exhaust nozzles. Claim 1 has been modified to agree with the specification as suggested by the examiner. The word "alternatively" has been added to the claim.

Review of the claim wording found claim 19 and paragraph 37 having the word "around" rather than the properly descriptive word "external" and in claim 19 injection of fuel flow through a piloting device, rather than "and ignited by an ignition" device. The device 44 identified on the drawings, Figures 8 and 9, is disclosed as a piloting device 44 in paragraph [0037], line 3, and an igniter 44 in paragraph [0042], line 8. Both may be used to cause ignition in the fuel flow. The amendment in paragraph [0037] and claim 19 is believed to be consistent with and clarify this terminology as presented in the original application.

The examiner has requested information concerning the currently named joint inventors under 35 USC 1.56. A supplemental response was forwarded by Express Mail on November 7, 2003, but it is not known if this was considered in the action. Information concerning the contribution of Francis Schoelen the added joint inventor, not common to the prior reference, is as follows: Mr. Schoelen is a co-inventor with reference to claims 1 through 8, 12 through 14, 16, 20 through 27 and 33 through 34, regarding the configuration design of flow path protuberances into the flow path, including specifically the variable geometry inlet and the various ejector configurations.

Claims 1, 3, 9 through 14 and 16 have been rejected under 35 USC 103 (a) as being unpatentable over Boehnlein et al. in view of Bichler et al. as set forth in the first office action.

With regard to the rejection of claim 1 (and other claims), the previous response to the prior office action explained the differences in performance based on features that were different between

the instant application and the Bichler art concerning the variable inlet. The Bichler art design and disclosure may be useful in the instance of a need to switch flow paths; however, due to the inlet structure the Bichler inlet use on a vehicle, that does not require a switch in flow path, would result in reduced vehicle performance. Even in cases where a single prior art reads more closely on a device where arrangement of parts is a patentability issue, "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification , to make the necessary changes in the reference device". Ex parte Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (underline added, MPEP 2144.04, VI, C).

In this instance the Bichler device or inlet provides questionable benefit for the aerospace vehicle and would actually hurt performance; therefore, there is no disclosure or prior anticipation for use with the instant invention. There would be no motivation to incorporate the Bichler inlet with its design and performance into the aerospace vehicle of the instant invention. For one to design a variable inlet as disclosed in the instant invention for use with the aerospacecraft, an independent effort would be necessary as the Bichler art teaches away from such a structure. Therefore, review of Bichler would most likely conclude not to incorporate a variable inlet. Therefore, it is believed claim 1 should be allowed.

Claim 3 is now based on claim 1 that is believed to be allowable and therefore should be allowed.

Claim 9, 10 11 and 12 are now based on what is believed to be an allowable claim and therefore should be allowed.

Claim 13 claims use of scramjet gaseous fuel. Boehnlein does not disclose scramjet or associated "supersonic flow". Injectors use scramjet fuel in a subsonic and supersonic flow stream. Basically a ramjet slows air flow to subsonic to add fuel while a scramjet adds fuel directly to supersonic air flow. For these reasons it is believed Boehnlein and Bichler do not disclose or

anticipate this claim and it should be allowable.

Claim 14 and 16 are now based on what is believed to be an allowable claim and therefore should be allowed.

Claim 18 has been rejected under 35 USC 103 (a) as being unpatentable over Boehnlein et al. in view of Bichler et al. as applied to claim 1 and further in view of Hausmann as set forth in the first office action.

The Hausmann art does not inject fluid into an exit nozzle of the device for directional control, but rather into a valve internal to the device to direct flow to one of two exit nozzles acting orthogonally. The instant invention as claimed and described in the specification injects the fluid in the exit nozzle during supersonic function to modify the exit nozzle flow and the thrust vector. As argued above with respect to claim 1, review of Hausmann discloses a different device for a different purpose, the injection at 32 and 34 is not the application of the instant invention nor does it anticipate it.

It is believed with the clarifying amendments that the uniqueness of the instant invention is not disclosed in the cited art.

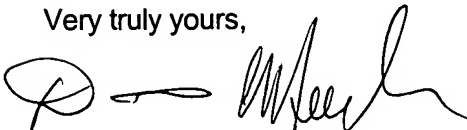
Accordingly it is believed that the rejections under 35 USC Section 103 (a) have been overcome by amending of the claims and the remarks, and withdrawal thereof is respectfully requested.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration of the cause for rejections and objections is requested. Allowance of claims 1 through 19, 22 through 26, and 28 through 35 is earnestly solicited.

No additional fee for claims is seen to be required.

If you have any questions do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read "Dennis W. Beech", with a stylized flourish at the end.

DENNIS W. BEECH
Reg. No.: 35,443
DWB/ab



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In regards to application of:

Serial Number: 10/081,343
Applicant: BOEHNLEIN, JOHN et al.
Filing Date: 02-20-2002
Title: EJECTOR BASED ENGINES
TC/AU: 3746
Examiner: FREAY, CHARLES GRANT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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12 page of response

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